

Appl. No. 10/692,637  
Amdt. dated 7/21/08  
Reply to Office action of 1/29/08

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**JUL 21 2008**

REMARKS/ARGUMENTS

Reconsideration of the application is requested.

Claims 1, 2 and 4-7 are now in the application and are subject to examination.

Claim 7 has been added. No claims have been amended or canceled herein.

In "Claim Rejections – 35 USC § 102," item 2 on pages 3-4 of the above-identified Office Action, claims 1 and 2 have been rejected as being fully anticipated by U.S. Patent No. 4,999,153 to Johansson et al. (hereinafter Johansson) under 35 U.S.C. § 102(b).

In "Claim Rejections – 35 USC § 103," item 3 on pages 5-6 of the Office Action, claims 4 and 5 have been rejected as being obvious over Johansson in view of U.S. Patent No. 5,404,383 to Nylund (hereinafter Nylund '383) under 35 U.S.C. § 103(a).

In "Claim Rejections – 35 USC § 103," item 4 on pages 6-7 of the Office Action, claim 6 has been rejected as being obvious over Johansson in view Nylund '383 and further in view of U.S. Patent No. 5,080,858 to Nylund (hereinafter Nylund '858) under 35 U.S.C. § 103(a).

As will be explained below, it is believed that the claims were patentable over the cited art in their previous form and, therefore, the claims have not been amended to overcome the references. However, new claim 7 has been added.

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Before discussing the prior art in detail, it is believed that a brief review of the invention as claimed, would be helpful. Claim 1 calls for, *inter alia*, a spacer for a fuel assembly of a boiling water reactor, comprising:

a frame formed with outer webs and inner webs oriented crossways with respect to one another;

gills formed on an outer side of said outer webs and projecting outward to a given extent from said outer side;

a plurality of projections each formed by an outward bulge in a wall of said outer webs, said projections each having a lower edge extending to and being identical with a lower edge of a respective one of said outer webs and projecting outwardly to a greater extent than said given extent of said gills, said projections being disposed in a region of a respective said inner web; and

a deflector lug formed integrally on a lower edge of said projections.

The Johansson reference discloses a fuel assembly having a fuel channel 40 with fuel rods 26 and spacers 29. As is seen in Fig. 3, the spacers have a flow tripper or groove 62 and, above the flow tripper, a separation configuration or band or member 66 with a deflector, skirt or tab 64 at the bottom and a deflector tab 69 at the top. Elements 62, 64 and 69 deflect water toward the fuel rod 26 as the water rises. Fig. 4 of Johansson additionally shows a second outwardly directed skirt 74 which is apparently formed by an aperture 76 (not described in the reference) that can be seen to project exactly the same distance outwardly as the deflector or first skirt 64. Fig. 6 is an enlarged view of one spacer 29, which is broken away as seen at the right of the figure. The deflector 64 is only interrupted by the braking away of the spacer and clearly there is only one deflector 64.

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Johansson does not have gills:

The Examiner has stated that he considers the element 74 and aperture 76 shown in Fig 4 of Johansson to be a gill. Accordingly, Johansson has only one gill. In contrast, claim 1 calls for "gills." The use of a plurality of gills is not the equivalent of merely adding more of an element shown in the prior art, since one gill cannot perform an adequate fluid exchange necessary for mixing that more than one gill can perform.

Johansson does not have a plurality of projections:

The Examiner has stated that Johansson has a plurality of projections formed by transitions between the deflector 64 and the separation configuration 66 in Fig. 6. However, as explained above, the deflector 64 in Fig. 6 is only interrupted by the braking away of the spacer in the illustration which was chosen for that view and clearly there is only one deflector 64. In contrast, claim 1 calls for "a plurality of projections." Once again, it is not merely a question of adding more of an element found in a reference because the plurality of projections performs a function which one projection cannot perform, that is to protect the gills. One projection will merely push the fuel element into another gill.

Thus, the plurality of gills and the plurality of projections work together in a manner not contemplated, shown or rendered obvious by the prior art.

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Johansson does not have projections projecting outwardly to a greater extent than a given extent of the gills

In this regard, the Examiner has stated that:

"One can always find an extent (i.e. distance or length) along the projection formed on the outer bulge in the wall of the outer web of Johansson et al. that projects more outwardly (i.e. towards wall 70) than a distance or length in their gill (i.e. the combination of elements 74 and 76)".

As stated above, this feature of the invention, calling for projections projecting outwardly to a greater extent than a given extent of the gills, is extremely important for the invention. As stated in the sentence bridging pages 6 and 7 of the Specification of the instant application, this prevents the gills 5 or the wall section 7 thereof from coming in contact with the inner wall of the fuel channel when a fuel element is introduced.

It is not clear who the person referred to by the Examiner as "one" is. Clearly, the "one" who would find projections projecting outwardly to a greater extent than a given extent of the gills is not Johansson since he has neither shown nor described such a structure. Clearly, it is not the Examiner, since the Examiner cannot find such a structure.

Undersigned Counsel is unaware of any court decision of section of the MPEP permitting a rejection based on what "one can always find." Instead, a rejection must be based on a showing in the prior art, which the Examiner has not found.

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Not only is the rejection inadequate under 35 USC § 102, since the limitation is not in the prior art, but it would also be inadequate under 35 USC § 103, since the prior art does not provide a hint or suggestion of such a structure and the Examiner has not provided an analysis supporting a rejection under 35 U.S.C. § 103(a) noting that such an analysis should be made explicit and that it is "important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the [prior art] elements"; in the manner claimed. KSR Int'l Co. v. Teleflex Inc., No. 04-1350 (U.S. Apr. 30, 2007).

In order to make this even clearer, new claim 7 has been added to call for "said projections project outwardly to a greater extent than said given extent of said gills to prevent said gills from coming into contact with a channel of the fuel assembly."

Certainly, what "One can always find" does not meet this functional limitation.

It is accordingly seen that for the several reasons given above, claims 1, 2 and 7 are patentable over Johansson.

Johansson and Nylund '383 do not show or suggest the limitations of claim 4:

In the spacer shown in Figs. 14 and 15 of Nylund '383, there are no outward bulges at the outer webs 2, which project from the outer side of the webs 2 (projections each formed by an outward bulge). The inner webs have upper and lower edges, which point respectively in or counter the flow direction of the coolant and extend transversely to the flow direction as well as lateral edges, which extend in the flow

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direction or parallel to the plane surface of the outer webs and connect the upper and lower edges with one another. The rounded-off section (guiding tab) 23 projecting from the lower edge extends laterally beyond the lateral edge but not into a projection formed by an outward bulge. The structure according to claim 4 is therefore not disclosed or suggested by Nylund '383.

Johansson and Nylund '383 do not show or suggest the limitations of claim 5:

The invention described in Nylund '383 aims at avoiding deflector lugs or guiding tabs, which extend obliquely or transversely to the flow direction of a coolant flowing through a fuel assembly (see column 1, paragraph 1 and reference numeral 3 in Fig. 2). However, it is especially such deflector lugs, which are present in the invention of the instant application. Thus, a combination of Nylund '383 with Johansson leads at most to providing the spacer disclosed in Johansson with inner webs, which have guiding tabs 23 projecting counter the flow direction (upstream) from the lower edge of the inner webs 22, as shown in Figs. 14 and 15. The result of such a combination, however, is not a configuration in accordance with claim 5, wherein a region, projecting downward, of an inner web serves for supporting a deflector lug.

Johansson, Nylund '383 and Nylund '858 do not show or suggest the limitations of claim 6:

Nylund '858 cited in this regard shows no spacer having outer webs which have projections having a recess in their outside and specifically not a projection wherein a slot is inserted into the recess, which slot serves for accommodating a support

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section projecting laterally from an inner web. In the spacer disclosed in Nylund '858, a lug, which extends counter to the flow direction, is formed integrally at the lower edge of an outer web and is broken through with windows 13 for reasons of decreasing the weight. A connection with the configuration according to claim 6 of the instant application or a motivation thereto cannot be seen in Nylund '858.

Clearly, neither Johansson nor Nylund '383 nor Nylund '858 show gills and a plurality of projections projecting outwardly to a greater extent than a given extent of the gills, as recited in claim 1 of the instant application, nor the limitations of claims 4-7 discussed above.

It is accordingly believed to be clear that none of the references, whether taken alone or in any combination, either show or suggest the features of claims 1, 4, 5, 6 and 7. Claims 1, 4, 5, 6 and 7 are, therefore, believed to be patentable over the art. The remaining dependent claim is believed to be patentable as well because it is dependent on claim 1.

In view of the foregoing, reconsideration and allowance of claims 1, 2 and 4-7 are solicited.

Finally, undersigned Counsel, while appreciating the diligent efforts of the Examiner, is respectfully compelled to say that since after five Office Actions and nearly five years, prior art showing or suggesting the invention has not been found,

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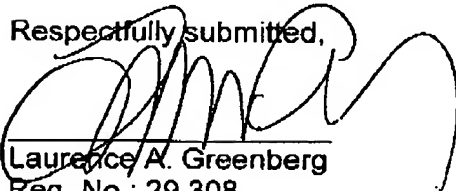
leading to great expense and delay for Applicant, it is time to either cite adequate prior art or allow the claims.

In the event the Examiner should still find any of the claims to be unpatentable, counsel would appreciate receiving a telephone call so that, if possible, patentable language can be worked out.

Petition for extension is herewith made. The extension fee for response within a period of three month pursuant to Section 1.136(a) in the amount of \$1,050.00 in accordance with Section 1.17 is enclosed herewith.

Please charge any other fees that might be due with respect to Sections 1.16 and 1.17 to Deposit Account Number 12-1099 of Lerner Greenberg Sterner LLP.

Respectfully submitted,



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LAG/lq

July 21, 2008

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